I’ve learned a lot about myself as a teacher. For example, when you’re trying to move a student forward toward the goal and they’re struggling, how do you get them there without giving them the answer? Focusing on the assessing and advancing questions, figuring out what they know, and then letting them think and kind of grapple with the idea—that has really been the biggest shift in my mind.

—MICHELLE MUSUMECI, EIGHTH-GRADE TEACHER
**Pause and Consider** moments invite teachers to reflect on and make connections to their own practice.

**PAUSE AND CONSIDER**

How do you track students’ ideas during instruction?

How do you circulate among your students as they are working?

What techniques might help you more effectively track student thinking in your classroom?

**TEACHING TAKEAWAY**

You can often gauge the effectiveness of advancing questions by noticing whether students immediately begin to explore it!

Teaching Takeaways provide on-your-feet support for teachers, so they can jump into implementing the strategies discussed.

Ms. Musumeci explained that in her experience,

I think you need to leave the students to think for a while and then go back and see what they’ve come up with. If they’re still stuck, maybe that wasn’t the right advancing question, and you need to try another one. And if they have moved forward, then possibly, you can move them forward even further, or you could ask more assessing questions to see what their thinking is at this point.

While advancing questions are designed to help students make progress, it is important that you take time during the lesson to check whether or not they have successfully done so.

What does this look like in practice? In Analyzing the Work of Teaching 4.3, you will explore how Mrs. Mossotti’s use of advancing questions helps students make progress on the State Fair problem. We encourage you to view the clip and consider the questions posed before you read the analysis.

**TEACHING TAKEAWAY**

You can often gauge the effectiveness of advancing questions by noticing whether students immediately begin to explore it!

This ability for students to pursue an advancing question as you pose advancing questions, you will want to gauge reaction. Do they begin working? Can you see them thinking, mulling something over? Do they ask each other questions? Mrs. Saroney suggested that when “they kind of stop and think, there’s kids that … you can see the wheels turning in their head and they might go and try something. That’s when I know that they were ready for that advancing question.”

Of course, what is most essential is that your advancing questions prompt students to move forward in their thinking. After you ask an advancing question, you will want to give students time to work but will also want to check back in with the group to see how they have progressed.

Ms. Musumeci explained that in her experience,
Video showcase panels highlight the rich film footage available for each topic and include related questions for consideration.

Analyzing the Work of Teaching 4.7
Following Up With Students—Part Two

Video Clip 4.7

Mrs. Mossotti visits Nietzsche, Ejub, and AJ on two separate occasions while they are working on the State Fair task.

As you watch Video Clip 4.7, consider the following questions:

1. What does Mrs. Mossotti learn about her students’ understanding during her first visit to the group?
2. What question does the teacher leave students to pursue?
3. When the teacher checks in with the group later (her second visit), what progress have students made? What does she leave them to work on?

Videos may also be accessed at resources.corwin.com/5practices-middleschool

Mrs. Mossotti's interactions with Nietzsche, Ejub, and AJ highlight several aspects of the ideas that we have highlighted in this chapter. First, she uses assessing questions to make students' thinking visible so that she can then move it in a productive direction. Second, she poses an advancing question to the group that is intended to push their thinking toward a more...
Buying Batteries Vignette

1. Mr. Q: Can you just fill in numbers like that? Sophia?
   
   Sophia: We just extended the table. We got 48 for $24.00 and then 54 for $27.00.

2. Mr. Q: What about the last column? How does it fit the pattern? Camila?
   
   Camila: You always add 6 to the batteries and 3 to the price (pointing to her paper that shows the addition).

3. Mr. Q: What is proportional?
   
   Sophia: We said that it is proportional.

4. Mr. Q: So now you have identified another pattern—one that connects the number of batteries and the cost. This is an important relationship. I want you to write that in your journals.

5. Mr. Q: Suppose I had 50 batteries for $25.00. Is this relationship the same as the one in your table? Sophia?
   
   Sophia: I think so—it still fits the pattern. They just left one out of the table.

6. Mr. Q: What did you decide? Destiny?
   
   Destiny: We decided that 50 batteries for $25.00 doesn’t fit the pattern because you can never get to 50 and 25 by adding 6 to the number of batteries and adding $3.00 to the cost. Also, you need if you use the relationship formed from the number of batteries and cost you will be back.

7. Mr. Q: These notes should help students in such a process as well. When other groups return to check their progress, I will be back.

8. Mr. Q: I think we’ve hit the pattern. They just left out an extra of the table.

9. Mr. Q: It appears that it is a linear function. The relationship is the same as the one in your table. The line rises half a unit on the y-axis for every 1 unit on the x-axis.

10. Mr. Q: Suppose I had 50 batteries for $25.00. Is this relationship the same as the one in your table?

11. Mr. Q: I think we’ve hit the pattern. They just left one out of the table.

12. Mr. Q: It appears that it is a linear function. The relationship is the same as the one in your table. The line rises half a unit on the y-axis for every 1 unit on the x-axis.

The Five Practices in Practice

Sophia, Camila, and Destiny.

In the Buying Batteries vignette, you will see Mr. Quinn’s interactions with one small group in his class that consists of Sophia, Camila, and Destiny.

Mr. Quinn’s questions and the responses of the students illustrate the following practices:

1. Launching Student Work
   
   Mr. Q: Can you just fill in numbers like that? Sophia?

2. Developing学生 Work
   
   Sophia: We just extended the table. We got 48 for $24.00 and then 54 for $27.00.

3. Sustaining Student Work
   
   Mr. Q: What about the last column? How does it fit the pattern? Camila?

4. Monitoring Student Work
   
   Camila: You always add 6 to the batteries and 3 to the price (pointing to her paper that shows the addition).

5. Anticipating Student Responses
   
   Destiny: You just keep adding the same amount on to batteries and price.

6. Collective Reflection
   
   Mr. Q: What is proportional?

7. Collective Reflection
   
   Sophia: We said that it is proportional.

8. Collective Reflection
   
   Mr. Q: So now you have identified another pattern—one that connects the number of batteries and the cost. This is an important relationship. I want you to write that in your journals.

9. Collective Reflection
   
   Mr. Q: Suppose I had 50 batteries for $25.00. Is this relationship the same as the one in your table?

10. Collective Reflection
    
    Mr. Q: I think we’ve hit the pattern. They just left one out of the table.

11. Collective Reflection
    
    Mr. Q: It appears that it is a linear function. The relationship is the same as the one in your table. The line rises half a unit on the y-axis for every 1 unit on the x-axis.

12. Collective Reflection
    
    Camila: You always add 6 to the batteries and 3 to the price (pointing to her paper that shows the addition).

13. Collective Reflection
    
    Mr. Q: What is proportional?

14. Collective Reflection
    
    Sophia: We said that it is proportional.

15. Collective Reflection
    
    Mr. Q: So now you have identified another pattern—one that connects the number of batteries and the cost. This is an important relationship. I want you to write that in your journals.

16. Collective Reflection
    
    Mr. Q: Suppose I had 50 batteries for $25.00. Is this relationship the same as the one in your table?

17. Collective Reflection
    
    Mr. Q: I think we’ve hit the pattern. They just left one out of the table.

18. Collective Reflection
    
    Mr. Q: It appears that it is a linear function. The relationship is the same as the one in your table. The line rises half a unit on the y-axis for every 1 unit on the x-axis.

19. Collective Reflection
    
    Camila: You always add 6 to the batteries and 3 to the price (pointing to her paper that shows the addition).

20. Collective Reflection
    
    Mr. Q: What is proportional?

21. Collective Reflection
    
    Sophia: We said that it is proportional.

22. Collective Reflection
    
    Mr. Q: So now you have identified another pattern—one that connects the number of batteries and the cost. This is an important relationship. I want you to write that in your journals.

23. Collective Reflection
    
    Mr. Q: Suppose I had 50 batteries for $25.00. Is this relationship the same as the one in your table?

24. Collective Reflection
    
    Mr. Q: I think we’ve hit the pattern. They just left one out of the table.

25. Collective Reflection
    
    Mr. Q: It appears that it is a linear function. The relationship is the same as the one in your table. The line rises half a unit on the y-axis for every 1 unit on the x-axis.

26. Collective Reflection
    
    Mr. Q: What is proportional?

27. Collective Reflection
    
    Sophia: We said that it is proportional.

28. Collective Reflection
    
    Mr. Q: So now you have identified another pattern—one that connects the number of batteries and the cost. This is an important relationship. I want you to write that in your journals.

29. Collective Reflection
    
    Mr. Q: Suppose I had 50 batteries for $25.00. Is this relationship the same as the one in your table?

30. Collective Reflection
    
    Mr. Q: I think we’ve hit the pattern. They just left one out of the table.

31. Collective Reflection
    
    Mr. Q: It appears that it is a linear function. The relationship is the same as the one in your table. The line rises half a unit on the y-axis for every 1 unit on the x-axis.

32. Collective Reflection
    
    Camila: You always add 6 to the batteries and 3 to the price (pointing to her paper that shows the addition).

33. Collective Reflection
    
    Mr. Q: What is proportional?

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    Sophia: We said that it is proportional.

35. Collective Reflection
    
    Mr. Q: So now you have identified another pattern—one that connects the number of batteries and the cost. This is an important relationship. I want you to write that in your journals.

36. Collective Reflection
    
    Mr. Q: Suppose I had 50 batteries for $25.00. Is this relationship the same as the one in your table?

37. Collective Reflection
    
    Mr. Q: I think we’ve hit the pattern. They just left one out of the table.

38. Collective Reflection
    
    Mr. Q: It appears that it is a linear function. The relationship is the same as the one in your table. The line rises half a unit on the y-axis for every 1 unit on the x-axis.

39. Collective Reflection
    
    Camila: You always add 6 to the batteries and 3 to the price (pointing to her paper that shows the addition).

40. Collective Reflection
    
    Mr. Q: What is proportional?

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    Sophia: We said that it is proportional.

42. Collective Reflection
    
    Mr. Q: So now you have identified another pattern—one that connects the number of batteries and the cost. This is an important relationship. I want you to write that in your journals.

43. Collective Reflection
    
    Mr. Q: Suppose I had 50 batteries for $25.00. Is this relationship the same as the one in your table?

44. Collective Reflection
    
    Mr. Q: I think we’ve hit the pattern. They just left one out of the table.

45. Collective Reflection
    
    Mr. Q: It appears that it is a linear function. The relationship is the same as the one in your table. The line rises half a unit on the y-axis for every 1 unit on the x-axis.

46. Collective Reflection
    
    Camila: You always add 6 to the batteries and 3 to the price (pointing to her paper that shows the addition).

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    Mr. Q: So now you have identified another pattern—one that connects the number of batteries and the cost. This is an important relationship. I want you to write that in your journals.

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    Mr. Q: Suppose I had 50 batteries for $25.00. Is this relationship the same as the one in your table?

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    Mr. Q: I think we’ve hit the pattern. They just left one out of the table.

52. Collective Reflection
    
    Mr. Q: It appears that it is a linear function. The relationship is the same as the one in your table. The line rises half a unit on the y-axis for every 1 unit on the x-axis.

53. Collective Reflection
    
    Camila: You always add 6 to the batteries and 3 to the price (pointing to her paper that shows the addition).

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59. Collective Reflection
    
    Mr. Q: It appears that it is a linear function. The relationship is the same as the one in your table. The line rises half a unit on the y-axis for every 1 unit on the x-axis.

60. Collective Reflection
    
    Camila: You always add 6 to the batteries and 3 to the price (pointing to her paper that shows the addition).
It is now time to teach the lesson you planned in Chapters 2 and 3! (Or if you prefer, select another lesson. Just make sure that you have engaged in Practice 0 and have anticipated student responses and questions before you begin.) We encourage you to video record the lesson so that you can reflect back on what occurred during the lesson.

1. Before teaching the lesson, consider how you are going to make sure you visit every group and remember the questions you leave groups to pursue. Also, consider whether there are any specific instructions you want to give students regarding your expectations for how you expect them to work in their groups.

2. As you teach the lesson, use your monitoring chart to keep track of the strategies students are using. Be sure you are checking in with every group and returning to groups to see if they are making good progress.

3. Following the lesson, use these questions to guide reflection on your monitoring:
   - Did you interact with each group in the class? If not, what could you do differently to ensure that you have a chance to check in with all of your students? Did you return to groups when you said you would to check on their progress?
   - To what extent did students use the strategies you had anticipated? What was unexpected?
   - To what extent were the assessing questions you anticipated in planning useful in your interactions with students? Did they help you make students’ thinking clear and public?
   - To what extent were the advancing questions you anticipated in planning useful in your interactions with students? Did they help students make progress on the task?
   - To what extent were you able to involve all members of a group in the conversation? What might you do differently in the future to hear the voices of more students?

4. What did you learn about students’ understanding of mathematics as a result of teaching the lesson?

5. What lessons have you learned about monitoring that will help you in planning and enacting the next lesson you teach?
Clearly designed tasks promote mathematical reasoning and problem solving.

Challenge and Description charts distill and demystify some of the common issues teachers encounter when teaching the concepts at hand.

**What It Takes/Key Questions** charts break down the critical components of the practice and explain what it takes to succeed and the questions you need to ask yourself to stay on track.